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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/512,360	02/24/2000	Hideshi Kawasaki	35.C14272	4685

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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

RAMSEY, KENNETH J

ART UNIT PAPER NUMBER

2879

DATE MAILED: 06/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/512,360

Examiner

Kenneth J. Ramsey

Applicant(s)

KAWASAKI, HIDESHI

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2003.
- 2a) ☐ This action is FINAL.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Prior Art Rejections

- 1) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

- 2) Claims 1 to 13 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Suzuki et al EP 726,591 (Suzuki '591) in view of Cherry et al 4,849,674 (Cherry) and Suzuki et al EP 729,168 (Suzuki '168). Suzuki '591 discloses the steps of fabricating an electron source composed of plural electron emission devices connected in a matrix by plural row wirings and plural column wirings, comprising forming a matrix of emitter device pre-elements, dividing the matrix of pre-elements into plural groups and sequentially applying an activation voltage to each group to generate a carbon deposit in a gap portion of each pre-element. Suzuki '591 differs from claim 1, in that it is not disclosed to sub-divide each group into subgroups and to simultaneously apply activation voltage to at least one pre-element of each subgroup as a unit. Cherry teaches an activation process comprising dividing the row wirings into 16 groups of row wirings with adjacent wires of each group spaced apart 16 rows so that the nth and n+1th groups of wires activated in succession can be spaced apart from each other. See Cherry, column 3, lines 23-26 wherein it is stated that "Spaced sets of electrodes are cycled in this fashion for about 90 minutes until the panel has initially been formed to about 25 volts. The spacing of the successive groups of electrodes from each other is to allow the electrodes of the nth

group to cool as the $n+1$ th group is activated. See Cherry, column 3, lines 22-23. Thus in Cherry there are rows in between the successively activated rows which are not activated. Furthermore, the patent to Suzuki '168, page 13, lines 21-23, further states that plural groups (columns) could be selected and the pulse forming voltage applied successively to the groups sequentially in a "zigzag manner" to avoid excessive heating of the central portion of the substrate during the creation of an electron emissive device as noted to be a problem at page 4, lines 23-25. This teaching suggests again the desirableness of spacing the successively activated devices from each other so that there are rows (or columns) that have no current applied between the successively activated rows (or columns). Therefore the subject matter of claim 1 is clearly obvious from Suzuki '591 in view of Cherry and Suzuki '168 since the obvious purpose of cycling the current in Suzuki '591 is to avoid excessive local heating of the device substrate and the further apart that the successively energized wires are, the less likely the chance of thermal damage. As to claim 2, the deposit in the gaps of the emitters comprises carbon. See Suzuki '591, column 7, lines 1-9. As to claim 3 the units of Suzuki '591 consists of a row or column as claimed, see Suzuki '591, column 26, lines 16-26. As to claims 4-8, to carry out the desired result, it would have been obvious to space the groups and subgroups so that the pitch between each row wiring of a unit corresponds to the number of rows in each subgroup since then it is possible to include a like number of devices in each of the activated groupings. As to claim 9-12, no difference is seen between the image device of Suzuki '591 wherein the activation voltage is applied to


spaced apart rows as a unit to shorten process time as taught by Cherry and Suzuki '168 and the image device or electron source defined by any of these claims. As to claim 13, the device of Suzuki '591 is an image forming apparatus for forming an image as stated in the claim.

Directions for Responses

Any formal response to this communication should be directed to examiner Kenneth Ramsey, Art Unit 2879, and either faxed to: 703-872-9318; or mailed to: Assistant Commissioner For Patents Washington, D.C. 20231

Technical inquiries concerning this communication should be directed to Kenneth J. Ramsey, (703) 308-2324 (voice), (703) 746-4832 (fax).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


Kenneth J. Ramsey
Primary Examiner
Art Unit 2879

kjr
June 2, 2003